In the Specification:

Please **replace** the paragraph at **page 1, lines 10 to 12,** with a replacement paragraph amended as follows:

The invention relates to a method for using ~~water, primarily~~ wastewater, namely black water and/or gray water, in the processing of fuels for high temperature fuel cells.

Please **replace** the paragraph at **page 2, lines 15 to 25,** with a replacement paragraph amended as follows:

On board of aircraft and other mobile conveyances or in remote stationary facilities, water becomes available in the form of wastewater resulting from the use of the water supply by people. Fuel cells can be used, not only in their function for producing energy, but also for generating fresh water. For this purpose it is necessary to gain or recover sufficient quantities of free hydrogen molecules for the process that proceeds in the fuel cell. These hydrogen molecules can be supplied by fuels based on hydrocarbons. However, water may also be a source for providing hydrogen molecules. **[[**~~In~~**]]** We have found that in a special case even wastewater can be used as a hydrogen molecule source.

Please **replace** the paragraph at **page 3, lines 7 to 10,** with a replacement paragraph amended as follows:

to process black water and gray water as a source of hydrogen molecules for use in high temperature fuel cells,

whereby the wastewater must be sufficiently precleaned without using distillation to make it suitable for use in a high temperature fuel cell;

Please **replace** the paragraph at **page 4, lines 2 to 11,** with a replacement paragraph amended as follows:

The above objects have been achieved according to the invention by the combination of the following steps:

a) ~~using as a fuel for a high temperature fuel cell a~~ supplying a liquid hydrocarbon fuel, preferably kerosene;

b) processing wastewater by one or more steps of filtration, reverse osmosis, and equivalent treatments but avoiding distillation to produce prepared ~~water;~~ wastewater; and

c) emulsifying said liquid hydrocarbon fuel with the prepared ~~water~~ wastewater to form an emulsion as an emulsified fuel for **[[~~the~~]]** a high temperature fuel cell.

Please **replace** the paragraph at **page 4, lines 12 to 13,** with a replacement paragraph amended as follows:

By processing or pretreating the wastewater while avoiding distillation a non-critical use of wastewater can be achieved in a high temperature fuel cell.

Please **replace** the paragraph at **page 4, lines 14 to 20,** with a replacement paragraph amended as follows:

Following the important emulsifying operation, the process according to the invention preferably includes a desulfurization process and a cracking process for the separation of the hydrogen molecules from the emulsion, whereby the second and third stages, namely the desulfurization and the cracking preferably take place in separate compartments or individual housings within **[[~~the~~]]** an enclosure of the high temperature fuel **[[~~cell.~~]]** cell for an efficient use of heat from the high temperature fuel cell.

Please **replace** the paragraph at **page 5, line 23 to page 6, line 10,** with a replacement paragraph amended as follows:

In high temperature fuel cells such as SOFCs (Solid Oxide Fuel Cells) it is possible to use various kinds of fuels as a hydrogen supplier at the anode side of the high temperature fuel cell due to the internal reformation processes that are typical for high temperature fuel cell operations. However, for reasons of efficiency, it is preferred to use fuels ~~which have~~ having short hydrocarbon chains. Long chain hydrocarbons should thus be pretreated for their use in high temperature fuel cells to reduce the chain link or bond lengths. The addition of water enhances or supports the internal reforming processes on the one hand, while on the other hand wastewater quantities may be used which, after pretreatment are regenerated by the

internal reforming processes of the high temperature fuel cell.

Please **replace** the paragraph at **page 6, line 11 to page 7, line 3**, with a replacement paragraph amended as follows:

It is advantageous that long chain hydrocarbon fuels, such as kerosene, are available in mobile conveyances such as commercial aircraft. Such fuels are to be mixed or rather emulsified with water for the use of these fuels in high temperature fuel cells. Advantageously the water quantities that become available on board as wastewater can be prepared by a pretreatment such as filtration, for supplying sufficient pretreated wastewater quantities for the preparation of fuel for use in a high temperature fuel cell, thereby reducing the need for larger storage facilities for the wastewater. The filtration of the wastewater must remove solid components. The degree of the water quality achievable by filtration is of a secondary importance for the use of such water for regeneration in a high temperature fuel cell. Thus, distillation is not necessary for the purposes of the invention. The most important advantages of the present method are seen in the weight reduction which has a direct influence on the fuel consumption of an aircraft and in the need for substantially smaller wastewater storage resulting a further weight reduction and gain of space in an aircraft. Any remaining quantities of wastewaters are also

substantially smaller and hence enhance the servicing of the aircraft on the ground.

Please **replace** the paragraph at **page 7, lines 13 to 24,** with a replacement paragraph amended as follows:

The single Figure shows a high temperature fuel cell 10 having its own enclosure 4. A block diagram 20 illustrates schematically the emulsifying process for using wastewater 9 to provide an emulsified fuel for the fuel cell 10. A liquid hydrocarbon fuel [[~~Fuel~~]] 8 is fed through a dosing pump 6 into an emulsifying container 1. Simultaneously, prepared wastewater [[~~9~~]] from a cleaning station 15 is fed through a dosing pump 7 into the same or common emulsifying container 1. A sound frequency generator 5 supplies the emulsifying energy into the emulsifying container ~~housing~~ 1. A generator known [[~~to~~]] as a "Sonotrode" may be used, for example. It is preferred to feed the fuel 8 and the prepared wastewater [[~~9~~]] from the cleaning station 15 into the emulsifying container 1 directly in front of the "Sonotrode 5", which is driven by a power source 5A.

Please **replace** the paragraph at **page 8, lines 1 to 11,** with a replacement paragraph amended as follows:

Upstream of the water dosing pump 7, ~~the water~~ wastewater 9 is passed through [[~~a~~]] the cleaning station 15 which produces the prepared wastewater that may involve one or more filtrations and/or a reverse osmosis process or any other cleaning operation that provides a prepared ~~water~~

wastewater suitable or uncritical for the emulsifying process. However, distillation is not necessary for such preparation. The prepared ~~water~~ wastewater from the station 15 and the liquid hydrocarbon fuel 8 are continuously fed into the common ~~reaction~~ emulsifying container 1. The emulsion is thus also continuously discharged from the container 1. The emulsion is preferably but not necessarily supplied to an electrochemical processing station 16. A separation of molecular bonds of the organic compounds in the emulsion is performed in station 16.

Please **replace** the paragraph at **page 8, lines 12 to 20,** with a replacement paragraph amended as follows:

The emulsion is then fed from the electrochemical processing station 16 through a non-return check valve 12 into a housing 2A which is mounted within the enclosure 4 of the high temperature fuel cell 10. A desulfurization process using a catalyst 2 is performed in the housing 2A, whereby thermal energy of the fuel cell 10 is used for the desulfurization of the emulsion. The desulfurization removes sulfur and sulfur compounds including hydrogen sulfide from the emulsion. The sulfur and sulfur compounds are discharged from the fuel cell through a discharge port 11.

Please **replace** the paragraph at **page 9, lines 3 to 25,** with a replacement paragraph amended as follows:

Following the just described process steps, the fuel that is now in a gaseous state, is supplied to the anode side of the high temperature fuel cell 10. The supply pressure is thereby dependent on the supplied fuel quantity and on the applied or introduced thermal energy. The fuel supply pressure can be controlled in closed loop fashion by the fuel quantity and by the mixture proportions. The mixing ratio as well as the quantities of fuel 8 and water 9 are controlled in closed loop fashion by a control unit 13 which receives at its input emulsion information <u>regarding the emulsion quality</u> from a sensor 14 through a link 14A that may be a conductor or a wireless link. The sensor 14 may be an optical sensor which generates a control signal based, for example, on the turbidity and/or on a color stain distributed in the emulsion. <u>The control signal represents an emulsion quality.</u> In addition or instead, the sensor 14 may measure the electrical conductivity of the emulsion in the emulsifier container 1. The conductivity should be at least 600 μS. The signals provided by the sensor 14 are processed by the control unit 13 such as a CPU, to provide control signals to the pump 6, to the power supply 5A and to the pump 7 as indicated by the respective dashed lines with their arrow heads to provide a closed loop control. Additionally, control parameters such as the water to fuel ratio may be stored in a memory of the CPU 13 and used in a control program.

Please **replace** the paragraph at **page 11, lines 3 to 5,** with a replacement paragraph amended as follows:

> Incidentally, the pretreatment of the water in the station 15 is performed only to the extent necessary for the emulsification to make this operation uncritical. In other words, distillation is not necessary.

[RESPONSE CONTINUES ON NEXT PAGE]